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DYNAMIC FILTERING FOR LOSSY COMPRESSION

ABSTRACT

An encoder dynamically filters information for lossy compression so as to control bitrate or quality with few sudden, dramatic changes to perceptual quality of the compressed information. For example, a video encoder regulates the level of a buffer (e.g., how full or empty the buffer is) by adjusting median filtering of video information (e.g., pixel data and/or prediction residuals). The buffer stores compressed video information for the video encoder. Based upon the buffer level, the video encoder changes the median filter kernel applied to video information. If the buffer starts to get too full, the video encoder increases the size of the kernel, which tends to smooth the video information, introduce slight blurriness, and deplete the buffer. If the buffer starts to get too empty, the video encoder decreases the size of the kernel or stops filtering, which tends to preserve the video information and fill the buffer.